

Amendments to the Claims

Please amend Claims 20, 40, 43, and 45. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

What is claimed is:

1. (Previously Presented) An apparatus for determining changes in the shape of an object comprising:
 - an electromagnetic radiation source coupled to the object, the electromagnetic radiation source emitting a cross-shaped cross-section beam,
 - an array of electromagnetic radiation sensors coupled to the object to receive radiation from the radiation source, responses of the sensors indicating angular orientation of the shaped beam with respect to the array,
 - a processor processing the responses of the sensors to determine a twist of the object.
2. (Previously Presented) The apparatus of Claim 1 wherein the responses of the sensors indicate a displacement of the cross-shaped cross-section beam with respect to the array.
3. (Canceled)
4. (Original) The apparatus of Claim 1 wherein the electromagnetic radiation source is a laser.
5. (Original) The apparatus of Claim 1 wherein the electromagnetic radiation source is an electromagnetic-radiation-emitting diode.
6. (Original) The apparatus of Claim 1 wherein the electromagnetic radiation source comprises at least two electromagnetic radiation sources.
7. (Previously Presented) The apparatus of Claim 1 wherein the processor further processing the responses of the sensors to determine bend of the object.

8. (Original) The apparatus of Claim 1 wherein the array of electromagnetic radiation sensors is non-linear.
9. (Original) The apparatus of Claim 1 further comprising an electromagnetic radiation focusing device positioned between the electromagnetic radiation source and the array of electromagnetic radiation sensors.
10. (Original) The apparatus of Claim 1 wherein the electromagnetic radiation is infrared, visible, or ultraviolet light.
11. (Original) The apparatus of Claim 1 wherein the object is a blade.
12. (Previously Presented) The apparatus of Claim 1 further comprising
 - a second electromagnetic radiation source coupled to the object, the second electromagnetic radiation source emitting a second cross-shaped cross-section beam, and
 - a second array of electromagnetic radiation sensors coupled to the object to receive radiation from the second radiation source, responses of the sensors of the second array indicating orientation of the second cross-shaped cross-section beam with respect to the second array.
13. (Original) The apparatus of Claim 12 wherein the object is a blade.
14. (Previously Presented) The apparatus of Claim 12 wherein the first cross-shaped cross-section beam and the second cross-shaped cross-section beam are substantially co-directed.
15. (Previously Presented) The apparatus of Claim 12 wherein the first cross-shaped cross-section beam and the second cross-shaped cross-section beam are substantially counter-directed.
16. (Original) The apparatus of Claim 1 wherein the changes in shape of the object are indicative of flow of a fluid around the object.